

ENVIRONMENTAL SCIENCE, BACHELOR OF SCIENCE WITH A CONCENTRATION IN ANALYTICAL SCIENCES

Requirements

Code	Title	Credits
Required core courses:		
(Note that in the case of cross-listed courses, Environmental Science majors must enroll in the ENVN section)		
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	2
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
ENVN/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
A minimum of 1 credit hour in ENVN 4800 must be completed (up to 3 credits can be applied to the major)		
ENVN/BIOL 4800	INTERNSHIP IN ENVIRONMENTAL MANAGEMENT AND PLANNING	1-3
ENVN/GEOG 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
Also required:		
An approved course in statistics (BIOL 4110, STAT 1530, STAT 3000, PSYC 3130, SOC 2130)		3-4
An approved GIS course (ENVN 4600, GEOG 1090, GEOG 3530, GEOG 4050)		1-4
An approved course focusing on the human dimensions of environmental studies (ANTH 4250, ENVN 3180, ENVN 4270, SOC 4760, PHIL 3180, PSCI 4270)		3
Analytical Sciences Concentration requirements:		
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
Select one of the following organic chemistry sequences:		5-8
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (5 cr)	
OR		
CHEM 2250	ORGANIC CHEMISTRY I (3 cr)	
CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY (5 cr)	
Also Required:		
CHEM 2400	QUANTITATIVE ANALYSIS	3
CHEM 2404	QUANTITATIVE ANALYSIS LAB	1
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
CHEM 3030	ENVIRONMENTAL CHEMISTRY	3
CHEM 3650	FUNDAMENTALS OF BIOCHEMISTRY	3

CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	1
CHEM 4400	INSTRUMENTAL ANALYSIS	3
CHEM 4404	INSTRUMENTAL ANALYSIS LABORATORY	1
Required cognate courses:		
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
PHYS 1110	GENERAL PHYSICS I	4
PHYS 1154	GENERAL PHYSICS LABORATORY I	1
PHYS 1120	GENERAL PHYSICS II	4
PHYS 1164	GENERAL PHYSICS LABORATORY II	1
Plus a minimum 11 hours selected from the following:		11
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY (4 cr)	
GEOL 2600	GEOHYDROLOGY (3 cr)	
GEOL 2750 & GEOL 2754	MINERALOGY and MINERALOGY LABORATORY (4 cr)	
GEOL 2760 & GEOL 2764	IGNEOUS AND METAMORPHIC PETROLOGY and IGNEOUS AND METAMORPHIC PETROLOGY LABORATORY (4 cr)	
GEOL 3300 & GEOL 3310	STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (4 cr)	
GEOL 4540	GEOCHEMISTRY (3 cr)	
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE (4 cr)	
GEOG 3510	METEOROLOGY (3 cr)	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES (3 cr)	
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY (3 cr)	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION (3 cr)	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I (4 cr)	
GEOG 4100	BIOGEOGRAPHY (3 cr)	
GEOG 4260	PROCESS GEOMORPHOLOGY (4 cr)	
GEOG 4320	CLIMATOLOGY (3 cr)	
GEOG 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION (4 cr)	
GEOG 4340	WATER RESOURCES (3 cr)	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING (4 cr)	
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II (4 cr)	
BIOL 3020	MOLECULAR BIOLOGY OF THE CELL (3 cr)	
BIOL 3340	ECOLOGY (4 cr)	
BIOL 3530	FLORA OF THE GREAT PLAINS (4 cr)	
BIOL 4120	CONSERVATION BIOLOGY (3 cr)	
ENVN 4180	FRESHWATER ECOLOGY (4 cr)	
ENVN 4350	GLOBAL CLIMATE CHANGE (3 cr)	
ENVN 4410	WETLAND ECOLOGY AND MANAGEMENT (3 cr)	

Total Credits **82-91**

Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the environmental science major with a concentration in analytical science, the writing in the discipline requirement can be

fulfilled by completing NSCI 3940 along with CHEM 3354 and an additional approved lab or by completing ENGL 3980.

Analytical Sciences Concentration

Freshman

		Credits
Fall		
ENGL 1150	ENGLISH COMPOSITION I	3
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I and GENERAL PHYSICS LABORATORY I	5
Humanities and Fine Arts/US Diversity		3
Credits		15

Spring

BIOL 1330	ENVIRONMENTAL BIOLOGY	3
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	2
PHYS 1120 & PHYS 1164	GENERAL PHYSICS II and GENERAL PHYSICS LABORATORY II	5
Credits		14

Sophomore

		Credits
Fall		
CHEM 2250	ORGANIC CHEMISTRY I	3
CHEM 2400 & CHEM 2404	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science/Global Diversity		3
Credits		13

Spring

CHEM 2260 & CHEM 2274	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY	5
CHEM 2500	INTRODUCTION TO INORGANIC CHEMISTRY	3
GEOL 1010	ENVIRONMENTAL GEOLOGY	3
Humanities and Fine Arts		3
Credits		14

Junior

		Credits
Fall		
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
Approved Statistics Course		3
Humanities and Fine Arts*		3
Social Science		3
An approved course focusing on the human dimensions of environmental studies		3
*HFA #3 – must be in a 2nd discipline		
Credits		16

Spring

GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY	4
Approved GIS Course		4
Approved GEOL/GEOG/BIOL/ENVN elective		3
Social Science*		3

Elective of choice, if needed to reach 120** 1-3

*SS #3 – must be in a 2nd discipline

**120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options can help you reach these minimums.

Credits 15-17

Summer

ENVN 4800	INTERNSHIP IN ENVIRONMENTAL MANAGEMENT AND PLANNING (*)	1
-----------	--	---

*ENVN 4800: Requires permission of instructor.

Credits 1

Senior

		Credits
Fall		
ENVN/GEOL/GEOL/ BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT (*)	3
ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (**)	3

Approved GEOL/GEOG/BIOL/ENVN elective*** 3

Approved GEOL/GEOG/BIOL/ENVN elective*** 3

Elective of choice, if needed to reach 120.*** 3

*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) level credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options, when given, can help you reach these minimums.

Credits 15

Spring

BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
CHEM 3030	ENVIRONMENTAL CHEMISTRY	3
CHEM 4400 & CHEM 4404	INSTRUMENTAL ANALYSIS and INSTRUMENTAL ANALYSIS LABORATORY	4
NSCI 3940	WRITING IN CHEMISTRY	2
Approved GEOL/GEOG/BIOL/ENVN elective		3

Credits 16

Total Credits 119-121

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

Additional Information About this Plan:

University Degree Requirements: The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

Placement Exams: For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**Transfer credit or placement exam scores may change suggested plan of study